

## **Derivation of MHD equations from the Vlasov-Maxwell-Boltzmann system**

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We introduce various scalings to the Vlasov-Maxwell-Boltzmann system of two species which formally lead to Magnetohydrodynamic (MHD) type equations with the corresponding Ohm's law in the limit. The results will cover the compressible resistive MHD equations, incompressible MHD equations for both viscous and inviscid cases. Hall effect will be also discussed. The rigorous justification of such limits is to be done in the framework of classical solutions via the truncated Hilbert expansions. This is joint work with Nader Masmoudi.